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Submissions
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RE: Market Monitoring Review of structure, conduct and performance in the wholesale electricity market

Nova Energy (Nova) has reviewed the Authority's report on the performance of the wholesale electricity market and is not surprised that the Authority was unable to conclude that market power has been exercised on a sustained basis by the major electricity generators.

Comparing historical market outcomes against a theoretical construct in arrears is always going to be difficult in a system as broad and complex as the wholesale electricity market. Nova appreciates that the Authority recognises this and has not attempted to draw too many conclusions from weak evidence of market power being exercised.

Nova has provided a separate submission on the question of regulatory control over large electricity contracts.

The electricity market has changed fundamentally in that the short run marginal cost of thermal generation is now higher than the long run cost of new renewable generation projects; due to a combination of higher fuel prices and carbon emission costs, and exacerbated by gas supply constraints¹. This has provided scope for hydro generators to lift offer prices without the risk of being displaced by thermal generation.

In normal circumstances we expect that if hydro generation is over-priced, then there would be a response in terms of an increase in the dispatch of thermal generation or reduced demand in the short term. In the long term, high prices should result in additional competition from new generation capacity (subject to the lead times involved in construction of new generation plant). The expected closure of the Tiwai aluminium smelter however created increased risk for parties considering building new generation capacity. This led to a period with a tighter balance between supply and demand.

Ultimately however, if water is held back by generators through high offer prices, it must eventually breach the limits of their hydro storage capacity. To the extent that over-pricing water leads to increased thermal generation, then that will likely lead to increased hydro spill. (Has the Authority determined if there has been any significant energy 'spill' from any hydro or wind farms?)

It does appear from the evidence provided however that the hydro generators have managed to lift prices without triggering an excess of thermal generation. As evidenced by the events of 9 August 2021, thermal generators have significant start-up lead times and expenses. To cover these costs, operators of thermal plant must anticipate when prices will be high enough for long enough to justify committing a unit to generate.

¹ Electricity Authority: Market monitoring review of structure, conduct and performance in the wholesale electricity market. 4.24 – 4.32

Nova suspects the hydro generators are sculpting their offer profiles close to their expected supply commitments as a risk management policy. They are also applying high prices to those offer tranches that are just above their expected load².

This practise by the hydro operators has contributed to those generators with uncommitted thermal capacity maintaining relatively high generation offers in the market. This reflects the risk that they are inadvertently dispatched to operate 'on the margin' for an uneconomic period, which can easily occur. Nova has previously outlined to the Authority the factors behind its policy of pricing its offers at \$0.01c when committing its fast-start gas turbines at McKee and Junction Road³.

This issue could be addressed by an amendment to the Code. Nova proposes a change to the effect that:

in any trading period (TP) where a thermal plant is required to start operating given an offer that has been made by the generator, i.e. when the plant is dispatched at a price, then the generator should be entitled to immediately reduce its offer price for that TP and the TP's immediately following to \$0.01c, subject to no change in the quantity offered.

The effect of that change would be to enable the fast-start gas turbines to offer in at a lower price when their offer prices are available on standby at above the expected market price. This is because the risk of being required to generate uneconomically for short periods would be largely eliminated. Other generators would be aware that the fast start units could be dispatched if their offer stack caused price to spike higher. They would therefore be more cautious when posting higher prices in their offer stack.

In a market with increasing reliance on wind generation and plans for significant amounts of solar generation due to be completed, it is becoming increasingly important for generators to respond to the market. Shortening up the period between gate closure and dispatch would also enable generators to be more responsive to market conditions, particularly where the generator is required to decide whether to commit fast start units to operate.

Enabling units to be committed to run once dispatched would result in lower wholesale prices for the market as a whole, and more efficient operation of the fast-start gas turbines. Given that fast-start turbines may also have a continued role in a low carbon future, then reducing a key barrier to their efficient dispatch will also have a long-term beneficial impact on the market.

Nova is wary of the value of the hydro modelling with DOASA. Nova has not had direct experience with DOASA, but the practices of the hydro generators in determining notional 'water values' suggests the determination is far more complex than simulated by the model. Optimising for multiple reservoirs, river chains, inter-island transmission constraints and reserves alone mean that modelling water values as a single reservoir has limited relevance to the real market⁴.

² Ibid 5.155 – 5.161

³ Ibid 5.161

⁴ Ibid Consistent with results in Tables 13 - 16

Assumptions around future fuels availability, demand uncertainty and insurance against allowing any reservoir to completely empty, places an additional premium on water values when inflows are low. We note that Meridian, Mercury, Genesis and Trustpower will all endeavour to maintain some hydro reserves as the cost of not doing so could be very high, especially should the hydro storage thresholds be triggered and the rules related to customer energy savings and compensation applied.

Outside the extra-ordinary spill events of December 2019, Nova is not aware of any evidence that generators have favoured spill over generation.

Conclusion

Nova suggests that while there is no firm evidence of market failure, there is room for improvement if the Code is amended to enable fast start generation to be more responsive to market conditions.

Yours sincerely



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